

SEQUENCE LISTING

<110> Anziano, Paul Q.

<120> Manganese Superoxide Dismutase Exon 3-Deleted Isoforms
and Nucleic Acid Molecules Encoding the Isoforms

<130> 53073-0001-US

<140> US 09/623,025
<141> 2001-01-16

<150> US 60/075,948
<151> 1998-02-25

<150> PCT/US99/04129
<151> 1999-02-25

<160> 14

<170> PatentIn Ver. 2.1

<210> 1
<211> 552
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(552)
<223> Isoform of MnSOD E3(-)

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Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val
 1 5 10 15

ttg ggg tat ctg ggc tcc agg cag aag cac agc ctc ccc gac ctg ccc 96
Leu Gly Tyr Leu Gly Ser Arg Gln Lys His Ser Leu Pro Asp Leu Pro
 20 25 30

tac gac tac ggc gcc ctg gaa cct cac atc aac gcg cag atc atg cag 144
Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln
 35 40 45

ctg cac cac agc aag cac cac gcg gcc tac gtg aac aac ctg aac gtc 192
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val
 50 55 60

acc gac gag aag tac cag gag gcg ttg gcc aag ggg gag ttg ctg gaa 240
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu
 65 70 75 80

gcc atc aaa cgt gac ttt ggt tcc ttt gac aag ttt aag gag aag ctg 288
Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu
 85 90 95

acg gct gca tct gtt ggt gtc caa ggc tca ggt tgg ggt tgg ctt ggt		336	
Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly			
100	105	110	
ttc aat aag gaa cgg gga cac tta caa att gct gct tgt cca aat cag		384	
Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln			
115	120	125	
gat cca ctg caa gga aca aca ggc ctt att cca ctg ctg ggg att gat		432	
Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp			
130	135	140	
gtg tgg gag cac gct tac tac ctt cag tat aaa aat gtc agg cct gat		480	
Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp			
145	150	155	160
tat cta aaa gct att tgg aat gta atc aac tgg gag aat gta act gaa		528	
Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu			
165	170	175	
aga tac atg gct tgc aaa aag taa		552	
Arg Tyr Met Ala Cys Lys Lys			
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<210> 2
 <211> 183
 <212> PRT
 <213> Homo sapiens

<400> 2			
Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val			
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Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln			
35	40	45	
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val			
50	55	60	
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu			
65	70	75	80
Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu			
85	90	95	
Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly			
100	105	110	
Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln			
115	120	125	
Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp			
130	135	140	
Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp			
145	150	155	160
Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu			
165	170	175	
Arg Tyr Met Ala Cys Lys Lys			
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<210> 3
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: probe, exon
      2-exon 4 junction

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<210> 4
<211> 12
<212> PRT
<213> Homo sapiens

<400> 4
Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu Ala
   1           5           10

<210> 5
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer,
      exon 1 forward

<400> 5
agccagctct agaagcatgt tgag                           24

<210> 6
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer,
      exon 5 reverse

<400> 6
attctgcagt actctagacc actac                           25

<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

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<223> Description of Artificial Sequence: PCR primer,
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<400> 7
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<210> 8
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer,
      exon 4 reverse

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<210> 9
<211> 6
<212> PRT
<213> Homo sapiens

<220>
<223> amino acid sequence at exon 2-exon 4 junction

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Leu Ala Lys Gly Glu Leu
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RT-PCR
      primer, 1F

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<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RT-PCR
      primer, 710R

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<210> 12
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<221> misc_feature
<223> intron between exons 2 and 3 of MnSOD gene

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<213> Homo sapiens

<220>
<221> misc_feature
<223> intron between exons 3 and 4 of MnSOD gene

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<213> Homo sapiens

<220>
<221> misc_feature
<223> intron between exons 2 and 4 of MnSOD gene (splice variant)

<400> 14
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SEQUENCE LISTING

<110> University of Nevada-Reno, Richard Bjur, PhD, JD

<120> Identification of Oxidant Isoform of Human MnSOD

<130> unevadareno5013

<140> unfiled

<141> 1999-02-25

<160> 11

<170> PatentIn Ver. 2.0

<210> 1

<211> 552

<212> DNA

<213> human dna and protein segment

<220>

<221> CDS

<222> (1) .. (549)

<223> SEQ ID NO:1

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Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val
1 5 10 15

ttg ggg tat ctg ggc tcc agg cag aag cac agc ctc ccc gac ctg ccc 96
Leu Gly Tyr Leu Gly Ser Arg Gln Lys His Ser Leu Pro Asp Leu Pro
20 25 30

tac gac tac ggc gcc ctg gaa cct cac atc aac gcg cag atc atg cag 144
Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln
35 40 45

ctg cac cac agc aag cac cac gcg gcc tac gtg aac aac ctg aac gtc 192
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val
50 55 60

acc gac gag aag tac cag gag gcg ttg gcc aag ggg gag ttg ctg gaa 240
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu
65 70 75 80

gcc atc aaa cgt gac ttt ggt tcc ttt gac aag ttt aag gag aag ctg 288
Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu

85	90	95	
acg gct gca tct gtt ggt gtc caa ggc tca ggt tgg ggt tgg ctt ggt 336			
Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly			
100	105	110	
ttc aat aag gaa cgg gga cac tta caa att gct gct tgt cca aat cag 384			
Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln			
115	120	125	
gat cca ctg caa gga aca aca ggc ctt att cca ctg ctg ggg att gat 432			
Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp			
130	135	140	
gtg tgg gag cac gct tac tac ctt cag tat aaa aat gtc agg cct gat 480			
Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp			
145	150	155	160
tat cta aaa gct att tgg aat gta atc aac tgg gag aat gta act gaa 528			
Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu			
165	170	175	
aga tac atg gct tgc aaa aag taa 552			
Arg Tyr Met Ala Cys Lys Lys			
180			
<210> 2			
<211> 183			
<212> PRT			
<213> human dna and protein segment			
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Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val			
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Leu Gly Tyr Leu Gly Ser Arg Gln Lys His Ser Leu Pro Asp Leu Pro			
20	25	30	
Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln			
35	40	45	
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val			
50	55	60	
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu			
65	70	75	80

Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu
85 90 95

Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly
100 105 110

Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln
115 120 125

Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp
130 135 140

Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp
145 150 155 160

Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu
165 170 175

Arg Tyr Met Ala Cys Lys Lys
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<210> 3

<211> 45

<212> DNA

<213> human dna segment

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<210> 4

<211> 12

<212> PRT

<213> antigenic protein sequence

<400> 4

Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu Ala

1 5 10

<210> 5

<211> 24

<212> DNA

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<400> 5

agccagctct agaagcatgt tgag

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<210> 6
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attctgcagt actctagacc actac

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<210> 7
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gctctagaac ctcacatcaa c

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1 5

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<210> 11
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attctgcagt actcttagacc actac

25